Initial Study/Negative Declaration for the Amendments to Bay Area Air Quality Management District Regulation 8, Rule 44, Rule 46; and Manual of Procedures, Volume IV; ST-34

Prepared for:

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Chapter 1

Introduction

Purpose of this Document

This Initial Study/Negative Declaration (IS/ND) assesses the environmental impacts of the proposed adoption of amendments to Regulation 8, Rule 44, Rule 46 and ST-34 by the Bay Area Air Quality Management District (BAAQMD or District) as required by the California Environmental Quality Act (CEQA) and in compliance with the state CEQA Guidelines (Title 14 California Code of Regulations§§1400 et seq.). An IS/ND serves as an informational document to be used in the decision-making process for a public agency that intends to carry out a project; it does not recommend approval or denial of the project analyzed in the document. The BAAQMD is the lead agency under CEQA and must consider the impacts of the proposed rule amendments when determining whether to adopt them. The BAAQMD has prepared this IS/ND because no significant adverse impacts would result from the proposed rule amendments.

Scope of this Document

This document evaluates the potential impacts of the proposed amendments on the following resource areas:

- aesthetics,
- agricultural resources,
- air quality,
- biological resources,
- cultural resources,
- geology and soils,
- hazards and hazardous materials
- hydrology and water quality,
- land use planning,
- mineral resources,
- noise,

- population and housing,
- public services,
- recreation,
- transportation/traffic, and
- utilities and service systems.

Impact Terminology

The following terminology is used in this IS/ND to describe the levels of significance of impacts that would result from the proposed rule amendments:

- An impact is considered *beneficial* when the analysis concludes that the project would have a positive effect on a particular resource.
- A conclusion of *no impact* is appropriate when the analysis concludes that there would be no impact on a particular resource from the proposed project.
- An impact is considered *less than significant* if the analysis concludes that an impact on a particular resource topic would not be significant (i.e., would not exceed certain criteria or guidelines established by BAAQMD). Impacts are frequently considered less than significant when the changes are minor relative to the size of the available resource base or would not change an existing resource.
- An impact is considered *less than significant with mitigation incorporated* if the analysis concludes that an impact on a particular resource topic would be significant (i.e., would exceed certain criteria or guidelines established by BAAQMD), but would be reduced to a less than significant level through the implementation of mitigation measures.

Organization of This Document

The content and format of this document, described below, are designed to meet the requirements of CEQA.

- Chapter 1, "Introduction," identifies the purpose, scope, and terminology of the document.
- Chapter 2, "Description of the Proposed Rule," provides background information of Regulation 8, Rule 44, describes the proposed rule amendments, and describes the area and facilities that would be affected by the amendments.

- Chapter 3, "Environmental Checklist," presents the checklist responses for each resource topic. This chapter includes a brief setting description for each resource area and identifies the impact of the proposed rule amendments on the resources topics listed in the checklist.

- Chapter 4, "References Cited," identifies all printed references and personal communications cited in this report.

Chapter 2

Description of the Proposed Rule

Background

Bay Area Air Quality Management District (District) proposes amendments to Bay Area Air Quality Management District Regulation 8, Rule 44: Marine Vessel Loading Terminals, and Rule 46: Marine Tank Vessel to Marine Tank Vessel Loading. The proposed amendments would (1) require controls for all liquids regulated by the current rules, (2) impose more stringent leak standards on the equipment that controls emissions, (3) clarify and extend requirements for various activities – tank washing, purging, and gas freeing – that can vent tank emissions to the atmosphere, and (4) consolidate all requirements into one rule. In addition, the District proposes to modify a source test method used to determine compliance with the emissions standards for vapor recovery units in Rule 44, ST-34: Bulk and Marine Loading Terminals – Vapor Recovery Units.

Main tank vessels operate in the Bay Area in two primary trades: the delivery to the Bay Area of refinery inputs such as crude oil, and the delivery to markets outside the Bay Area of a variety of refinery outputs such as gasoline, distillate oils, and residual oils.

The two District rules that would be changed by the proposal are Regulation 8, Rules 44 and 46. Rule 44 applies to loading activities that release organic compounds contained in the cargo tanks of marine tank vessels. Rule 46 applies to lightering, the transfer of cargoes from a large oil tanker with a draft greater than can be accommodated by the relatively shallow San Francisco Bay into a smaller vessel capable of delivering the cargo. In the Bay Area, virtually all lightering activity involves transfer of crude oil to smaller vessels for delivery to Bay Area refineries.

The current rules are intended to reduce emissions of organic compounds that lead to the formation of ozone, the primary constituent of smog. The rules were adopted in 1989 and apply to the five cargoes that account for most emissions: Crude oil, gasoline, gasoline blending stock, aviation gasoline, and JP-4 jet fuel.

Various tanker operations produce organic compound emissions subject to the rule. Loading or lightering of one of the five regulated liquids produces emissions when vapors from evaporation of the liquid are forced out of the tank by the incoming liquid. Loading or lightering of an unregulated organic liquid may also produce emissions if the liquid displaces vapors remaining from a prior cargo of one of the regulated liquids. Ballasting – the introduction of seawater into a tank in order to ensure proper propeller, rudder, and hull immersion – may be conducted after cargo delivery and may produce emissions if the tank receiving ballast water contained a regulated liquid cargo. Ballasting emissions are now relatively uncommon as most tankers calling on the Bay Area have segregated ballast tanks that are used only for ballast water. Other

activities – tank washing, purging, and gas freeing – may also produce emissions subject to the rule if they involve any venting of vapors from a regulated liquid.

Regulation 8, Rule 44 was primarily intended to control loading emissions. The rule limits emissions from loading to 2 pounds of organic compounds per thousand barrels of liquid loaded (2 lb/1000 bbl). By defining loading to include any "loading into a tank vessel when the prior cargo was an organic liquid," the standard was also intended to apply to ballasting. Regulation 8, Rule 46 extended the same standard to lightering. Though the rules do not directly address emissions from tank washing, purging, and gas freeing, the District has interpreted the rules to apply to these activities when the activities are associated with a regulated loading or lightering activity.

In 2001, the District prepared a 2001 Bay Area Ozone Attainment Plan to attain the national 1-hour ozone standard in the Bay Area. The 2001 Plan included a study measure (FS-11, "Marine Tank Vessel Activities") that proposed to examine whether significant additional emission reduction were available from further regulation of marine tank vessel operations. The results of this study were published in December 2002 in a draft technical assessment document (TAD). In the draft TAD, the District attempted to determine whether significant emission reductions could be cost-effectively achieved by: (1) regulating currently unregulated liquids, (2) imposing more stringent control requirements, (3) tightening leak standards, and (4) regulating activities that vent tank vapors to the atmosphere.

The testing performed during the development of the FS-11 TAD was not sufficient to establish reliable emission factors for currently-unregulated cargoes. However, the results of District testing and results obtained by other agencies suggest that an emission factor of 2 lb/1000 bbl is an appropriate assumption for the emissions produced by the loading of distillate fuel oils, including diesel, and residual fuel oils.

The draft TAD found that the current District abatement standard (2 lb/1000 bbl or 95% by weight) is at least as stringent as corresponding standards in the South Coast AQMD, San Luis Obispo County APCD, and Santa Barbara County APCD. The TAD did not include a recommendation for a more stringent control standard. The TAD did find that the current "gas tight" standard for tanks and connectors subject to control requirements (10,000 ppmv) is less stringent than the standard in the South Coast AQMD and San Luis Obispo County APCD (both 1,000 ppmv). In the Draft TAD, the District found that the South Coast AQMD and San Luis Obispo County APCD require control of gas venting operations where air or inert gas is introduced into a marine tank previously loaded with regulated cargo, usually for safety reasons. As noted, the District rules do not directly regulate gas venting operations, but have been interpreted by the District to apply to some of these activities when they are related to loading or lightering.

Building on the 2001 study measure and the 2002 TAD, District staff have further evaluated the rules and developed the following amendments in order to make the rule(s) more enforceable:

1) Reduce the allowable leak standard for marine terminal equipment and connections associated with marine loading from 10,000 ppm to 1,000 ppm based on standards in effect in other air districts;

2) Incorporate Rule 46 requirements regarding lightering operations into Rule 44 and eliminate Rule 46;

3) Require control of emissions from loading any liquid with a flashpoint of less than 100 ^{o}F, which would control currently unregulated emissions from the loading of certain organic chemicals;

4) Require control of emissions when organic vapors are vented to atmosphere, such as during cleaning, purging and gas freeing of cargo tanks on marine tank vessels;

5) Require collection and submission of various data; and

6) Make minor clarifying changes to the rules such as deletion of obsolete references and addition of definitions.

Objectives

The primary objective of the proposed rule amendments is to reduce emissions of ozone forming compounds (e.g., VOCs).

The U.S. Environmental Protection Agency (U.S. EPA) has set primary national ambient air quality standards for ozone and other air pollutants to define the levels considered safe for human health. CARB has also set a California ozone standard. The federal standard is 8 parts per hundred million (pphm), averaged over 8 hours. The state standard is 9 pphm, averaged over 1 hour. The BAAQMD is currently classified as a non-attainment area for both the federal 8-hour standard and the state 1-hour standard. However, monitoring data show that the BAAQMD now has an attainment record for the federal standard, despite the non-attainment classification. Under the requirements of the federal Clean Air Act (CAA), non-attainment areas must prepare ozone attainment demonstrations showing how they will attain the federal standard. The most recent federal attainment demonstration is the Bay Area 2001 Ozone Attainment Plan. Similarly, the California Clean Air Act of 1988 requires areas that do not comply with the standard to prepare ozone attainment plans. The most recent approved state plan is the Bay Area 2000 Clean Air Plan. The BAAQMD released the 2005 Ozone Strategy for public review and comment in September 2005, which is the most recent triennial ozone plan. However, this plan has not yet been approved.

Both federal and state plans include measures to reduce emissions of the pollutants that form ozone. These measures may be already-adopted rules, new regulations, or amendments to existing regulations. As noted, Regulation 8, Rule 44 would improve emission controls during marine tank vessel operations.

Currently, Regulation 8, Rule 44 applies to loading of marine vessels at terminals while Rule 46 applies the same standards to vessel-to-vessel loading. These rules were adopted separately in

1989 because resource limitations did not allow rulemaking for both aspects of marine loading to be completed at the same time. However, consolidation of these largely identical rules at this time will simplify Air District regulations. The draft amendments would eliminate Rule 46 and consolidate all marine loading requirements in Rule 44.

The proposed amendments to ST-34 includes corrections to temperature and pressure standardizations in some equations and incorporates a requirement that, in some situations, gas constituent average concentrations shall be determined on a flow-weighted basis.

Affected Area

The proposed rule amendments would apply to marine terminals under BAAQMD jurisdiction, which includes all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma counties (approximately 5,600 square miles). The San Francisco Bay Area is characterized by a large, shallow basin surrounded by coastal mountain ranges tapering into sheltered inland valleys. The combined climatic and topographic factors result in increased potential for the accumulation of air pollutants in the inland valleys and reduced potential for buildup of air pollutants along the coast. The Basin is bounded by the Pacific Ocean to the west and includes complex terrain consisting of coastal mountain ranges, inland valleys, and bays.

See Figure 1 depicting the area covered by the Bay Area Air Quality Management District. The marine terminals fall within this region, mostly near or adjacent to refineries located in Contra Costa and Solano County adjacent to the San Francisco Bay.

The Chevron refinery is located in Richmond, Contra Costa County, California. The refinery lies to the west of Castro Street and mostly to the north of Interstate 580, although some storage tanks and the wharf lie south of I-580. A marine terminal is located at the Chevron refinery site.

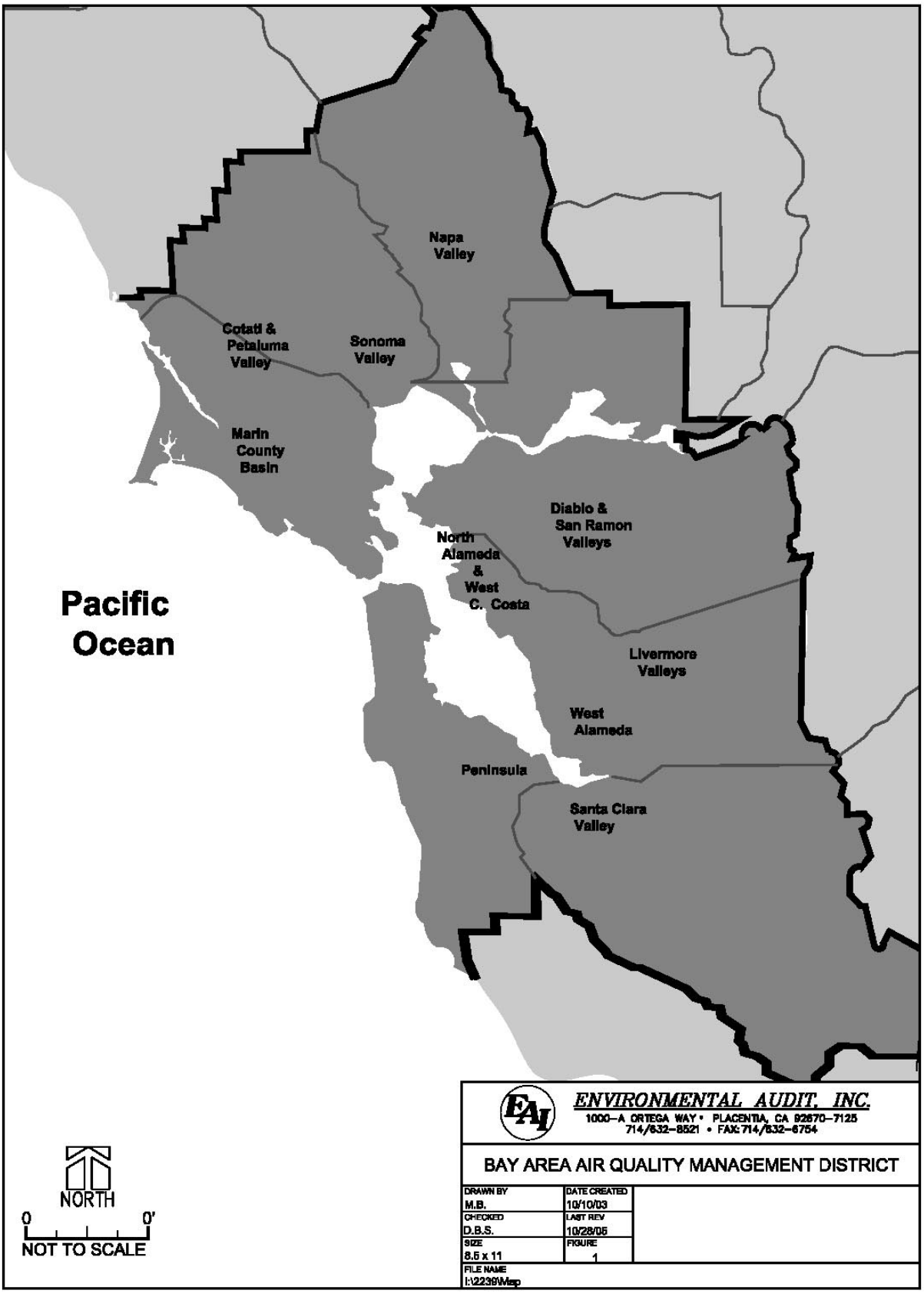
The Valero refinery is located on about 800 acres of land within the City of Benicia. The refinery is located about 0.5 mile north of I-780 and immediately west of I-680. A marine terminal is located adjacent to the Valero refinery.

The ConocoPhillips refinery is located on approximately 1,100 acres of land in the unincorporated area northeast of the community of Rodeo. The refinery property is bounded on the north by San Pablo Bay and a marine terminal, on the east by agricultural lands, on the south and southwest by a residential area and on the west by San Pablo Bay.

The Shell Oil refinery is located on about 880 acres in Contra Costa County, partially within the City of Martinez. The main portion of the refinery is bordered by Marina Vista Boulevard to the north, Interstate 680 to the east, Pacheco Boulevard to the South, Merrithew Avenue to the west, and the Shell marine terminal to the northwest.

The Tesoro refinery is located in Contra Costa County, between Martinez to the west and the community of Clyde to the east. The refinery is located south of Suisun Bay and is divided by Waterfront road and the Atchison Topeka and Santa Fe Railroad. A marine terminal is located adjacent to the refinery.

Other marine terminals may be affected by the proposed rule amendments include Darling International (located in San Francisco), Shore Terminals (with locations in Crockett and Martinez), IMTT (located in Richmond), and BP West Coast Products (located in Richmond).


Napa Valley
Cotati & Petaluma Valley
Sonoma Valley
Marin County Basin
Diablo & San Ramon Valleys
North Alameda & West C. Costa
Pacific Ocean
Livermore Valleys
West Alameda
Peninsula
Santa Clara Valley
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NOT TO SCALE
ENVIRONMENTAL AUDIT, INC.
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714/632-8521 • FAX: 714/632-6754
BAY AREA AIR QUALITY MANAGEMENT DISTRICT
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LAST REV 10/28/05
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FIGURE 1
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Chapter 3

Environmental Checklist

ENVIRONMENTAL CHECKLIST FORM

1. Project Title:	Bay Area Air Quality Management District (BAAQMD) Proposed Amendments to Regulation 8, Rule 44, Rule 46, and ST-34.
2. Lead Agency Name and Address:	Bay Area Air Quality Management District 939 Ellis Street San Francisco, California 94109
3.Contact Person and Phone Number:	Julian Elliot, Planning and Research Division 415/749-4705 or jelliot@baaqmd.gov
4. Project Location:	This rule amendment applies to marine tank vessel operations and marine terminals in the area within the jurisdiction of the Bay Area Air Quality Management District, which encompasses all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. Most of the marine terminals affected by the rule are located in Contra Costa and Solano Counties.
5. Project Sponsor's Name and Address:	Bay Area Air Quality Management District 939 Ellis Street San Francisco, California 94109
6. General Plan Designation:	The rule amendments apply to marine terminals and which are usually located in heavy manufacturing or industrial areas.
7. Zoning	The rule amendments apply to marine terminals that are usually located in heavy manufacturing or industrial areas.
8. Description of Project	See "Background" in Chapter 2.
9. Surrounding Land Uses and Setting	See "Affected Area" in Chapter 2.
10. Other Public Agencies Whose Approval Is Required	None

Environmental Factors Potentially Affected:

The environmental factors checked below would potentially be affected by this Project (i.e., the project would involve one impact that is a "Potentially Significant Impact"), as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology/Soils
☐ Hazards & Hazardous Materials	☐ Hydrology/Water Quality	☐ Land Use/Planning
☐ Mineral Resources	☐ Noise	☐ Population/Housing
☐ Public Services	☐ Recreation	☐ Transportation/Traffic
☐ Utilities/Service Systems	☐ Mandatory Findings of Significance	

Determination:

On the basis of this initial evaluation:

☑ I find the proposed project COULD NOT have a significant effect on the environment, and that a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be significant effects in this case because revisions to the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have an impact on the environment that is "potentially significant" or "potentially significant unless mitigated" but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

_____ _____

Signature Date

_____ _____

Printed Name For

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less-than-Significant Impact	No Impact
I.	**AESTHETICS.**				
	Would the project:				
a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☑
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway?	☐	☐	☐	☑
c)	Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	☑
d)	Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles), so that land uses vary greatly and include commercial, industrial, residential, agricultural, and open space uses

The marine terminals affected by the proposed rule amendments are located in heavy industrial areas, primarily in Contra Costa and Solano Counties. Scenic highways or corridors are generally not located in the vicinities of the affected refineries and marine terminals.

Regulatory Background

Visual resources are generally protected by the City and/or County General Plans through land use and zoning requirements.

Discussion of Impacts

I a-d: The proposed amendments to Regulation 8, Rule 44 would require more stringent controls on emissions associated with the transfer of certain organic liquids between marine vessels and between existing landside terminals and marine vessels. The proposed amendments could require new structures that may be visible outside of the marine terminal. However, new control equipment would generally be compatible with the heavy industrial nature of the existing marine

terminals and would generally be within the same size as the existing structures (e.g., storage tanks) at the marine terminals. Any new control equipment would be constructed within the confines of the existing marine terminals, which are located in heavy industrial areas. Therefore, no significant adverse aesthetic impacts would be expected.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
II. AGRICULTURE RESOURCES.				
In determining whether impacts on agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☑
b) Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?	☐	☐	☐	☑
c) Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses vary greatly and include commercial, industrial, residential, agricultural, and open space uses. Some of these agricultural lands are under Williamson Act contracts.

The marine terminals affected by the proposed rule amendments are primarily located in the industrial portions of Contra Costa and Solano Counties. Agricultural resources are generally not located in the vicinities of or within the affected refineries and marine terminals.

Regulatory Background

Agricultural resources are generally protected by the City and/or County General Plans, Community Plans through land use and zoning requirements, as well as any applicable specific plans, ordinances, local coastal plans, and redevelopment plans.

Discussion of Impacts

II a-c: The amendments to Regulation 8, Rule 44 propose more stringent controls on emissions associated with the transfer of certain organic liquids between marine vessels and between existing landside terminals and marine vessels. Any new control equipment would be constructed within the confines of the existing marine terminal boundaries, which are located within heavy industrial areas. No agricultural land would be impacted or converted to non-agricultural uses because construction activities would be limited to industrial areas. Therefore, no significant adverse impacts on agricultural resources are expected.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AIR QUALITY.				
When available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☑
b) Violate any air quality standard or contribute to an existing or projected air quality violation?	☐	☐	☐	☑
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	☐	☐	☐	☑
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☑
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☑
f) Diminish an existing air quality rule or future compliance requirement resulting in a significant	☐	☐	☐	☑

increase in air pollutant(s)?

Setting

Meteorological Conditions

The summer climate of the West Coast is dominated by a semipermanent high centered over the northeastern Pacific Ocean. Because this high pressure cell is quite persistent, storms rarely affect the California coast during the summer. Thus the conditions that persist along the coast of California during summer are a northwest air flow and negligible precipitation. A thermal low pressure area from the Sonoran-Mojave Desert also causes air to flow onshore over the San Francisco Bay Area much of the summer.

In winter, the Pacific high weakens and shifts southward, upwelling ceases, and winter storms become frequent. Almost all of the Bay Area's annual precipitation takes place in the November through April period. During the winter rainy periods, inversions are weak or nonexistent, winds are often moderate and air pollution potential is very low. During winter periods when the Pacific high becomes dominant, inversions become strong and often are surface based; winds are light and pollution potential is high. These periods are characterized by winds that flow out of the Central Valley into the Bay Area and often include tule fog.

Topography

The San Francisco Bay Area is characterized by complex terrain consisting of coastal mountain ranges, inland valleys and bays. Elevations of 1,500 feet are common in the higher terrain of this area. Normal wind flow over the area becomes distorted in the lower elevations, especially when the wind velocity is not strong. This distortion is reduced when stronger winds and unstable air masses move over the areas. The distortion is greatest when low level inversions are present with the surface air, beneath the inversion, flowing independently of the air above the inversion.

Winds

In summer, the northwest winds to the west of the Pacific coastline are drawn into the interior through the Golden Gate and over the lower portions of the San Francisco Peninsula. Immediately to the south of Mount Tamalpais, the northwesterly winds accelerate considerably and come more nearly from the west as they stream through the Golden Gate. This channeling of the flow through the Golden Gate produces a jet that sweeps eastward but widens downstream producing southwest winds at Berkeley and northwest winds at San Jose; a branch curves eastward through the Carquinez Straits and into the Central Valley. Wind speeds may be locally strong in regions where air is channeled through a narrow opening such as the Carquinez Strait, the Golden Gate, or San Bruno Gap.

In winter, the Bay Area experiences periods of storminess and moderate-to-strong winds and periods of stagnation with very light winds. Winter stagnation episodes are characterized by

outflow from the Central Valley, nighttime drainage flows in coastal valleys, week onshore flows in the afternoon and otherwise light and variable winds.

Temperature

In summer, the distribution of temperature near the surface over the Bay Area is determined in large part by the effect of the differential heating between land and water surfaces. This process produces a large-scale gradient between the coast and the Central Valley as well as small-scale local gradients along the shorelines of the ocean and bays. The winter mean temperature high and lows reverse the summer relationship in that daytime variations are small while mean minimum nighttime temperatures show large differences and strong gradients. The moderating effect of the ocean influences warmer minimums along the coast and penetrating the Bay. The coldest temperatures are in the sheltered valleys, implying strong radiation inversions and very limited vertical diffusion.

Inversions

A primary factor in air quality is the mixing depth, i.e., the vertical dimension available for dilution of contaminant sources near the ground. Over the Bay Area the frequent occurrence of temperature inversions limits this mixing depth and consequently limits the availability of air for dilution. A temperature inversion may be described as a layer or layers of warmer air over cooler air.

Precipitation

The San Francisco Bay Area climate is characterized by moderately wet winters and dry summers. Winter rains (December through March) account for about 75 percent of the average annual rainfall; about 90 percent of the annual total rainfall is received in November to April period; and between June and September, normal rainfall is typically less than 0.10 inches. Annual precipitation amounts show greater differences in short distances. Annual totals exceed 40 inches in the mountains and are less than 15 inches in the sheltered valleys.

Pollution Potential

The Bay Area is subject to a combination of physiographic and climatic factors which result in a low potential for pollutant buildups near the coast and a high potential in sheltered inland valleys. In summer, areas with high average maximum temperatures tend to be sheltered inland valleys with abundant sunshine and light winds. Areas with low average maximum temperatures are exposed to the prevailing ocean breeze and experience frequent fog or stratus. Locations with warm summer days have a higher pollution potential than the cooler locations along the coast and bays.

In winter, pollution potential is related to the nighttime minimum temperature. Low minimum temperatures are associated with strong radiation inversions in inland valleys that are protected from the moderating influences of the ocean and bays. Conversely, coastal locations experience

higher average nighttime temperatures, weaker inversions, stronger breezes and consequently less air pollution potential.

Air Quality

Criteria Pollutants

It is the responsibility of the BAAQMD to ensure that state and federal ambient air quality standards are achieved and maintained in its geographical jurisdiction. Health-based air quality standards have been established by California and the federal government for the following criteria air pollutants: ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), particulate matter less than 10 microns (PM10), sulfur dioxide (SO_2) and lead. These standards were established to protect sensitive receptors with a margin of safety from adverse health impacts due to exposure to air pollution. The California standards are more stringent than the federal standards and in the case of PM10 and SO_2, far more stringent. California has also established standards for sulfate, visibility, hydrogen sulfide, and vinyl chloride.

The state and national ambient air quality standards for each of these pollutants and their effects on health are summarized in Table 3-1. The BAAQMD monitors levels of various criteria pollutants at 26 monitoring stations. The 2002 air quality data from the BAAQMD's monitoring stations are presented in Table 3-2.

Air quality conditions in the San Francisco Bay Area have improved since the District was created in 1955. Ambient concentrations of air pollutants and the number of days on which the region exceeds air quality standards have fallen dramatically (see Table 3-3). The District is in attainment of the state and federal ambient air quality standards for CO, nitrogen oxides (NOx), and sulfur oxides (SOx). The District also is in attainment of the federal 24-hour PM10 standard. The District is classified as a non-attainment area for the federal 8-hour ozone standard, but monitoring data show that the District now has an attainment record for the standard. However, the District does not comply with the state ozone standards or the state 24-hour PM10 standard.

The 2004 air quality data from the BAAQMD monitoring stations are presented in Table 3-2. All monitoring stations were below the State standard and federal ambient air quality standards for CO, NO_2, and SO_2. The Bay Area is designated as a non-attainment area for the California 1-hour ozone standard. The State 1-hour standard was exceeded on seven days in 2004 in the Air District, most frequently in the Eastern District (Livermore) (see Table 3-2).

All monitoring stations were in compliance with the federal PM10 standards. The California PM10 standards were exceeded on seven days in 2004, most frequently in San Jose. The Air District exceeded the federal PM2.5 standard on one day (at Concord) in 2004 (see Table 3-2).

TABLE 3-1
FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS

	STATE STANDARD	FEDERAL PRIMARY STANDARD	MOST RELEVANT EFFECTS
AIR POLLUTANT	CONCENTRATION/ AVERAGING TIME	CONCENTRATION/ AVERAGING TIME	
Ozone	0.09 ppm, 1-hr. avg. > 0.070 ppm, 8-hr	0.08 ppm, 8-hr avg>	(a) Short-term exposures: (1) Pulmonary function decrements and localized lung edema in humans and animals (2) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (b) Long-term exposures: Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (c) Vegetation damage; (d) Property damage
Carbon Monoxide	9.0 ppm, 8-hr avg. > 20 ppm, 1-hr avg. >	9 ppm, 8-hr avg.> 35 ppm, 1-hr avg.>	(a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; (d) Possible increased risk to fetuses
Nitrogen Dioxide	0.25 ppm, 1-hr avg. >	0.053 ppm, ann. avg.>	(a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; (c) Contribution to atmospheric discoloration
Sulfur Dioxide	0.04 ppm, 24-hr avg.> 0.25 ppm, 1-hr. avg. >	0.03 ppm, ann. avg.> 0.14 ppm, 24-hr avg.>	Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma
Suspended Particulate Matter (PM10)	20 µg/m^3, ann. arithmetic mean > 50 µg/m^3, 24-hr average>	50 µg/m^3, annual arithmetic mean > 65 µg/m^3, 24-hr avg.>	(a) Excess deaths from short-term exposures and exacerbation of symptoms in sensitive patients with respiratory disease; (b) Excess seasonal declines in pulmonary function, especially in children
Suspended Particulate Matter (PM2.5)	12 µg/m^3, ann. Arithmetic mean	15 µg/m^3, annual arithmetic mean> 150 µg/m^3, 24-hour average>	Decreased lung function from exposures and exacerbation of symptoms in sensitive patients with respiratory disease; elderly; children.
Sulfates	25 µg/m^3, 24-hr avg. >=		(a) Decrease in ventilatory function; (b) Aggravation of asthmatic symptoms; (c) Aggravation of cardio-pulmonary disease; (d) Vegetation damage; (e) Degradation of visibility; (f) Property damage
Lead	1.5 µg/m^3, 30-day avg. >=	1.5 µg/m^3, calendar quarter>	(a) Increased body burden; (b) Impairment of blood formation and nerve conduction
Visibility-Reducing Particles	In sufficient amount to give an extinction coefficient >0.23 inverse kilometers (visual range to less than 10 miles) with relative humidity less than 70%, 8-hour average (10am – 6pm PST)		Nephelometry and AISI Tape Sampler; instrumental measurement on days when relative humidity is less than 70 percent

TABLE 3-2

Bay Area Air Pollution Summary 2004

MONITORING STATIONS	Ozone							CARBON MONOXIDE			NITROGEN DIOXIDE			SULFUR DIOXIDE			PM10				PM2.5				
	Max 1-Hr	Nat Days	Cal Days	3-Yr Avg	Max 8-Hr	Nat Days	3-Yr Avg	Max 1-Hr	Max 8-Hr	Nat/ Cal Days	Max 1-Hr	Ann Avg	Nat/ Cal Days	Max 24-Hr	Ann Avg	Nat/ Cal Days	Ann Avg	Max 24-Hr	Nat Day	Cal Days	Max 24-Hr	Nat Days	3-Yr Avg	Ann Avg	3-Yr Avg
NORTH COUNTIES	(pphm)							(ppm)			(pphm)			(ppb)			($\mu g/m^3$)				($\mu g/m^3$)			($\mu g/m^3$)	
Napa	9	0	0	0.0	7	0	6.6	3.7	2.0	0	6	1.1	0	--	--	--	20.7	60	0	1	--	--	--	--	--
San Rafael	9	0	0	0.0	6	0	4.9	3.2	2.0	0	6	1.5	0	--	--	--	17.9	52	0	1	--	--	--	--	--
Santa Rosa	8	0	0	0.0	6	0	5.1	2.7	1.6	0	5	1.1	0	--	--	--	18.0	48	0	0	27	0	32	8.3	9
Vallejo	10	0	1	0.0	7	0	6.5	4.0	3.4	0	5	1.2	0	5	1.3	0	19.6	51	0	1	40	0	39	11.1	11
COAST & CENTRAL BAY																									
Oakland	8	0	0	0.0	6	0	4.0	3.5	2.6	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Richmond	--	--	--	--	--	--	--	--	--	--	--	--	--	5	1.6	0	--	--	--	--	--	--	--	--	--
San Francisco	9	0	0	0.0	6	0	4.7	2.9	2.2	0	6	1.7	0	8	1.4	0	22.5	52	0	1	46	0	41	9.9	11
San Pablo	11	0	1	0.0	7	0	5.2	3.2	1.8	0	6	1.3	0	5	1.6	0	21.2	64	0	1	--	--	--	--	--
EASTERN DISTRICT																									
Bethel Island	10	0	1	0.0	8	0	7.5	1.2	0.9	0	3	0.8	0	6	1.6	0	19.5	42	0	0	--	--	--	--	--
Concord	10	0	1	0.0	8	0	7.9	2.7	2.0	0	7	1.2	0	10	1.0	0	18.6	51	0	1	74	1	40*	10.7*	11*
Crockett	--	--	--	--	--	--	--	--	--	--	--	--	--	7	1.7	0	--	--	--	--	--	--	--	--	--
Fairfield	10	0	1	0.0	8	0	7.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Livermore	11	0	5	1.0	8	0	8.3	3.5	1.8	0	6	1.4	0	--	--	--	20.0	49	0	0	41	0	37	10.3	11
Martinez	--	--	--	--	--	--	--	--	--	--	--	--	--	7	1.5	0	--	--	--	--	--	--	--	--	--
Pittsburg	9	0	0	0.0	8	0	7.3	4.1	1.9	0	5	1.1	0	7	2.0	0	21.7	64	0	1	--	--	--	--	--
SOUTH CENTRAL BAY																									
Fremont	9	0	0	0.0	7	0	6.4	3.0	1.7	0	6	1.5	0	--	--	--	18.6	49	0	0	40	0	32	9.4	10
Hayward	9	0	0	0.0	7	0	6.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Redwood City	10	0	1	0.0	7	0	6.0	4.8	2.1	0	6	1.5	0	--	--	--	20.5	65	0	1	36	0	32	9.3	9
San Leandro	10	0	1	0.0	7	0	5.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SANTA CLARA VALLEY																									
Gilroy	9	0	0	0.0	8	0	7.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Los Gatos	9	0	0	0.0	8	0	7.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
San Jose Central*	9	0	0	*	7	0	*	4.4	3.0	0	7	1.9	0	--	--	--	23.1	58	0	4	52	0	*	11.6	*
San Jose East	9	0	0	0.0	7	0	6.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
San Jose, Tully Road	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	26.0	65	0	3	45	0	35	10.4	10
San Martin	9	0	0	0.0	8	0	8.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sunnyvale	10	0	1	0.0	8	0	6.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Bay Area Days over Standard		**0**	**7**			**0**				**0**			**0**			**0**			**0**	**7**		**1**			

(ppm) = parts per million, (pphm) = parts per hundred million, (ppb) = parts per billion

*

TABLE 3-3

Ten-Year Bay Area Air Quality Summary
Days over standards

YEAR	OZONE			CARBON MONOXIDE				NO_X	SULFUR DIOXIDE		PM10		PM2.5
	1-Hr		8-Hr	1-Hr		8-Hr		1-Hr	24-Hr		24-Hr*		24-Hr**
	Nat	Cal	Nat	Nat	Cal	Nat	Cal	Cal	Nat	Cal	Nat	Cal	Nat
1995	11	28	-	0	0	0	0	0	0	0	0	7	-
1996	8	34	-	0	0	0	0	0	0	0	0	3	-
1997	0	8	-	0	0	0	0	0	0	0	0	4	-
1998	8	29	16	0	0	0	0	0	0	0	0	5	-
1999	3	2	9	0	0	0	0	0	0	0	0	12	-
2000	3	12	4	0	0	0	0	0	0	0	0	7	1
2001	1	15	7	0	0	0	0	0	0	0	0	10	5
2002	2	16	7	0	0	0	0	0	0	0	0	6	5
2003	1	19	7	0	0	0	0	0	0	0	0	6	0
2004	0	7	0	0	0	0	0	0	0	0	0	7	1

* PM10 is sampled every sixth day – actual days over standard can be estimated to be six times the numbers listed.
** 2000 is the first full year for which the Air District measured PM2.5 levels.

Toxic Air Pollutants

The precursor chemicals that form ozone are VOCs and NOx. Some of these VOCs are toxic air contaminants (TACs) and some are known carcinogens. The BAAQMD maintains a network of monitoring stations to monitor certain TACs in ambient air. In addition, the California Air Resources Board (CARB) maintains several monitoring stations in the Bay Area as part of a statewide toxics monitoring effort. The mean ambient concentrations of monitored TACs are listed in Table 3-4 based on monitoring conducted during 2002 for the monitoring stations closest to the refineries. The Richmond station is located at 7th Street downwind from the Chevron refinery and the Richmond parkway. The Crockett station is located at the end of Kendall Avenue generally downwind of the ConocoPhillips refinery.

TABLE 3-4

CONCENTRATIONS OF TOXIC AIR CONTAMINANTS IN THE BAY AREA(1)

CHEMICAL	MONITORING STATION (mean ppb)				
	Crockett	Concord (Treat Blvd)	Richmond	Bethel Island	Martinez
Vinyl Chloride	0.15	0.15	0.15	0.15	0.15
Methylene Chloride (DCM)	0.74	0.25	0.30	0.27	0.30
Chloroform (CHCl3)	0.20	0.03	0.02	0.01	0.01
Ethylene Dichloride	0.05	0.05	0.05	0.05	0.05
1,1,1-Trichloroethane (TCA)	0.05	0.03	0.03	0.03	0.09
Carbon Tetrachloride (CCl4)	0.11	0.12	0.10	0.11	0.11
Trichloroethylene (TCE)	0.03	0.03	0.03	0.03	0.03
Benzene	0.20	0.43	0.35	0.24	0.33
Ethylene Dibromide	0.01	0.01	0.01	0.01	0.01
Perchloroethylene	0.01	0.03	0.02	0.01	0.01
Toluene	0.36	1.79	1.21	0.50	0.79
MTBE	0.38	0.56	0.53	0.43	0.65

(1) BAAQMD, Toxic Air Contaminant, 2004 Annual Report, June 2004.

The concentrations of TACs at these monitoring stations are similar to concentrations of TACs in the rest of the Bay Area.

Regulatory Background

Criteria Pollutants

At the federal level, the Clean Air Act (CAA) Amendments of 1990 give the U.S. EPA additional authority to require states to reduce emissions of ozone precursors and PM10 in non-attainment areas. The amendments set new attainment deadlines based on the severity of problems. At the state level, CARB has traditionally established state ambient air quality standards, maintained oversight authority in

air quality planning, developed programs for reducing emissions from motor vehicles, developed air emission inventories, collected air quality and meteorological data, and approved state implementation plans. At a local level, California's air districts, including the BAAQMD, are responsible for overseeing stationary source emissions, approving permits, maintaining emission inventories, maintaining air quality stations, overseeing agricultural burning permits, and reviewing air quality-related sections of environmental documents required by CEQA.

The BAAQMD regulates air contaminants from stationary sources. The BAAQMD is governed by a 22-member Board of Directors composed of publicly-elected officials apportioned according to the population of the represented counties. The BAAQMD has the authority to develop and enforce regulations for the control of air pollution within its jurisdiction. The BAAQMD is responsible for implementing emissions standards and other requirements of federal and state laws. It is also responsible for developing air quality planning documents required by both federal and state laws.

Toxic Air Contaminants

TACs are regulated in the District through federal, state, and local programs. At the federal level, TACs are regulated primarily under the authority of the CAA. Prior to the amendment of the CAA in 1990, source-specific National Emission Standards for Hazardous Air Pollutants (NESHAPs) were promulgated under Section 112 of the CAA for certain sources of radionuclides and Hazardous Air Pollutants (HAPs).

Title III of the 1990 CAA amendments requires U.S. EPA to promulgate NESHAPs on a specified schedule for certain categories of sources identified by U.S. EPA as emitting one or more of the 189 listed HAPs. Emission standards for major sources must require the maximum achievable control technology (MACT). MACT is defined as the maximum degree of emission reduction achievable considering cost and non-air quality health and environmental impacts and energy requirements. All NESHAPs were to be promulgated by the year 2000. Specific incremental progress in establishing standards must be made by the years 1992 (at least 40 source categories), 1994 (25 percent of the listed categories), 1997 (50 percent of remaining listed categories), and 2000 (remaining balance). The 1992 requirement was met; however, many of the subsequent standards were not promulgated as scheduled. Promulgation of those standards has been rescheduled based on court-ordered deadlines, or the aim to satisfy all Section 112 requirements in a timely manner.

Many of the sources of TACs that have been identified under the CAA are also subject to the California TAC regulatory programs. CARB developed three regulatory programs for the control of TACs. Each of the programs is discussed in the following subsections.

Control of TACs Under the TAC Identification and Control Program: California's TAC identification and control program, adopted in 1983 as Assembly Bill 1807 (AB 1807) (California Health and Safety Code §39662), is a two-step program in which substances are identified as TACs, and airborne toxic control measures (ATCMs) are adopted to control emissions from specific sources. Since adoption of the program, CARB has identified 18 TACs, and CARB adopted a regulation designating all 189 federal HAPs as TACs.

Control of TACs Under the Air Toxics "Hot Spots" Act: The Air Toxics Hot Spot Information and Assessment Act of 1987 (AB 2588) (California Health and Safety Code §39656) establishes a state-wide program to inventory and assess the risks from facilities that emit TACs and to notify the public about significant health risks associated with those emissions. Inventory reports must be updated every four years under current state law. The BAAQMD uses a maximum individual cancer risk of 10 in one million, or an ambient concentration above a non-cancer reference exposure level, as the threshold for notification.

Senate Bill (SB) 1731, enacted in 1992 (California Health and Safety Code §44390 et seq.), amended AB 2588 to include a requirement for facilities with significant risks to prepare and implement a risk reduction plan which will reduce the risk below a defined significant risk level within specified time limits. At a minimum, such facilities must, as quickly as feasible, reduce cancer risk levels that exceed 100 per one million. The BAAQMD adopted risk reduction requirements for perchloroethylene dry cleaners to fulfill the requirements of SB 1731.

Discussion of Impacts

III a. The amendments to Regulation 8, Rule 44 propose more stringent controls on emissions associated with the transfer of certain organic liquids between marine vessels and between existing landside terminals and marine vessels. The primary objective of the proposed rule amendments is to reduce emissions of ozone forming compounds (e.g., VOCs).Because the proposed amendments would reduce emissions of VOCs, they contribute to the goals set forth in both the Bay Area 2001 Ozone Attainment Plan and the Bay Area 2000 Clean Air Plan.

III b, c, d, and f. The proposed amendments to Regulation 8, Rule 44 are expected to result in an overall reduction in VOC emissions. In 2003, a total of 209,700,000 barrels of regulated material (crude oil, gasoline, fuel intermediates, organic chemicals) were shipped, including materials subject to the proposed 100^{o}F flashpoint criterion.

Expansion of the control requirements of Rule 44 to organic chemicals with a flashpoint of less than 100^{o}F is expected to result in control of as much as 8,500,000 barrels per year of additional cargo. This cargo consists of volatile organic chemicals such as benzene and toluene with a high unabated loading emission factor. The resulting emission reduction would be 34 tons per year. A significant portion of this emission reduction consists of compounds, including benzene and toluene, which are categorized as toxic air contaminants. Some cargoes included in this category may already be subject to control requirements if they are used as gasoline blending stocks. To the extent that this is the case, the emission reduction would be less.

Information from 2003 and 2004 suggests that crude oil tankers performed approximately 2 to 4 venting events per month (total) in San Francisco Bay The District has estimated that the resulting emissions could be as high as 720 tons per year if a typical venting event resulted in 15 tons of emissions. Crude oil tankers occasionally take on a different cargo after unloading crude, which may require that the cargo tanks be cleaned and vented. Even if only one 100,000 barrel tanker were cleaned per month, emissions could be as high as 180 tons/yr. If emission controls achieved a 95% emission reduction, the resulting overall emission reduction would be about 170 ton/yr. The most likely consequence is that the activities will continue to take place outside the District and well offshore. This shift to offshore locations appears to have occurred in 2004 after the District issued a compliance advisory interpreting the existing rules as prohibiting venting activity

within the District. After the District issued its advisory, the U.S. Coast Guard issued an advisory noting the District prohibition. The proposed amendments are therefore expected to ratify existing administrative actions and are not expected to result in any shift in the location of venting activities. Nevertheless, the rule amendments clarify existing restrictions and ensure that emission reductions continue to be achieved.

Additional air pollution control equipment may be required at a few marine terminals that would be required to control additional loading activities in response to the proposed requirement to control emissions from cargoes with a flashpoint of less than 100^{o}F. The methods to control these emissions could include additional vapor control devices.

Some vapor control devices, e.g., afterburners, incinerators, or flares, might also be installed resulting in combustion emissions, primarily NOx. The emission control devices require air permits to operate. Emissions from vapor control devices are generally minimized by using efficient combustion practices, therefore, secondary impacts from these control measures are not expected. Assuming that the proposed amendments would result in controls on 8,500,000 barrels of additional cargo and that all controls would utilitze combustion, expected NOx emissions would be less than 1 ton per year, well below the Air District's threshold of significance of 15 tons per year. As a result, no significant impacts are expected from NOx emissions related to the use of incineration as a control technology.

Based on the above, the total estimated VOC emission reduction associated with the proposed rule amendment would be about 204 tons per year, providing an overall air quality benefit.

III e. The proposed amendments to Regulation 8, Rule 44 propose more stringent controls on emissions associated with the transfer of certain organic liquids between marine vessels and between marine vessels and existing landside terminals. Some of the emissions associated with loading of organic materials at marine terminals can generate odor emissions. The proposed rule amendments are expected to result in an emission reduction of up to 204 tons per year, which would also reduce the potential for odors generated at these facilities. Therefore, the proposed rule amendments are expected to have a beneficial impact on odors.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☑
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or	☐	☐	☐	☑

	regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				
c)	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☑
d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☑
e)	Conflicting with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☑
f)	Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.?	☐	☐	☐	☑

Setting

The Bay Area supports an extensive diversity of distinct vegetative communities. Broad habitat categories generally include coastal scrubs, oak woodlands, grasslands, estuaries, coastal salt marsh, riparian habitats, and eucalyptus groves, wetlands and rivers and streams. Wetlands, estuaries, rivers and streams, and urban disturbed habitats are not vegetative communities but provide wildlife habitats. The California Department of Fish and Game (CDFG) has identified several specific native vegetative communities as rare and/or sensitive. These natural communities are of special significance because the present rate of loss indicates that further habitat degradation may threaten the viability of plant and wildlife species within the community and hinder the long-term sustainability of the community or species. Natural communities within the Bay Area generally include coastal shrub and chaparral, grasslands, riparian, coastal marsh and estuaries, wetlands, woodlands, eucalyptus grove, and rivers and streams. These communities support a large diversity of wildlife.

The San Francisco Bay and Delta make up the Pacific Coast's largest estuary, encompassing roughly 1,600 miles of waterways and draining over 40 percent of California's fresh water. The Sacramento and San Joaquin Rivers flow from Northern California's inland valleys into the Delta's winding system of islands, sloughs, canals, and channels before emptying into San Francisco Bay and the Pacific Ocean (MTC, 2004). The marine environment supports a wide variety of species including fish, birds and mammals. The United States Fish and Wildlife Service recognizes several threatened and endangered species that occur in San Francisco Bay. These include the Steller sea lion (*Eumetopias jubatus*), the loggerhead sea turtle (*Caretta*

caretta), the leatherback turtle (*Dermochelys coriacea*), the olive ridley sea turtle (*lepidochelys olivacea*), and several fish species including coho salmon, steelhead, tidewater goby, delta smelt, Pacific lamprey, and Sacramento splittail. The four later species are native residents; the other species, however, are expected to use open water habitat either seasonally or infrequently (MTC, 2004).

The marine terminals affected by the proposed rule amendments are located in industrial areas, primarily in Contra Costa and Solano Counties. The marine terminal sites have been graded to develop the various structures (e.g., wharves, pipelines, etc.) and are typically, surrounded by other commercial and industrial facilities. Native vegetation, other than landscape vegetation, has been removed from operating portions of the marine terminals to minimize fire hazards.

Regulatory Background

Biological resources are generally protected by the City and/or County General Plans through land use and zoning requirements which minimize or prohibit development in biologically sensitive areas. Biological resources are also protected by the California Department of Fish and Game, and the U.S. Fish and Wildlife Service. The U.S Fish and Wildlife Service and National Marine Fisheries Service oversee the federal Endangered Species Act. Development permits may be required from one or both of these agencies if development would impact rare or endangered species. The California Department of Fish and Game administers the California Endangered Species Act which prohibits impacting endangered and threatened species. The U.S. Army Corps of Engineers and the U.S. EPA regulate the discharge of dredge or fill material into waters of the United States, including wetlands.

Discussion of Impacts

IV a – f. No impacts on biological resources are anticipated from the proposed rule amendments which would apply to existing marine terminal operations. Additional air pollution control equipment could be required at a few marine terminals that would have to control a greater volume of cargoes. The methods to control fugitive emissions could include vapor recovery devices, e.g., afterburners, incinerators, or flares. Construction activities are expected to be limited the existing wharves or adjacent terminal, which are already developed, industrial areas. Construction activities would not be expected in undeveloped areas. The proposed rule amendments neither require, nor are likely to result in, activities which would affect sensitive biological resources. Therefore, no significant adverse impacts on biological resources are expected.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	☐	☐	☐	☑

b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☐	☐	☑
c)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☑
d)	Disturb any human remains, including those interred outside a formal cemeteries?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses vary greatly and include commercial, industrial, residential, agricultural and open space uses. Cultural resources are defined as buildings, sites, structures, or objects which might have historical architectural, archaeological, cultural, or scientific importance.

The Carquinez Strait represents the entry point for the Sacramento and San Joaquin Rivers into the San Francisco Bay. This locality lies within the San Francisco Bay and the west end of the Central Valley archaeological regions, both of which contain a rich array of prehistoric and historical cultural resources. The areas surrounding the Carquinez Strait and Suisun Bay have been occupied for millennia given its abundant combination of littoral and oak woodland resources.

Dense concentrations of the Native American archaeological sites occur along the historic margins of San Francisco and San Pablo Bays. Archaeological sites have also been identified in the following environmental settings in all Bay Area counties: along historic bayshore margins, near sources of water (such as vernal pools and springs), along ridgetops, and on midslope terraces, and at the base of hills and on alluvial flats (MTC, 2004).

The marine terminals affected by the proposed rule amendments are located in industrial areas, primarily in Contra Costa and Solano Counties. The marine terminal sites have been graded to develop the various structures (e.g., wharves, pipelines, etc.) and are typically, surrounded by other commercial and industrial facilities. Cultural resources are generally not located within the operating portions of the marine terminals.

Regulatory Background

The State CEQA Guidelines define a significant cultural resources as a “resource listed or eligible for listing on the California Register of Historical Resources” (Public Resources Code Section 5024.1). A project would have a significant impact if it would cause a substantial adverse change in the significance of a historical resource (State CEQA Guidelines Section 15064/5(b)). A substantial adverse change in the significance of a historical resource would result from an action that would demolish or adversely alter the

physical characteristics of the historical resource that convey its historical significance and that qualify the resource for inclusion in the California Register of Historical Resources or a local register or survey that meets the requirements of Public Resources Code Sections 50020.1(k) and 5024.1(g).

Discussion of Impacts

V a – d. No impacts on cultural resources are anticipated from the proposed rule amendments that would apply to existing marine terminal operations. Additional air pollution control equipment may be required at a few marine terminals that would have to control a greater volume of cargoes. The methods to control fugitive emissions could include vapor recovery devices, e.g., afterburners, incinerators, or flares. Construction activities are expected to be limited the existing wharves or adjacent terminal, which are already developed, industrial areas. Construction activities would not be expected in undeveloped areas. Therefore, no significant adverse impacts on cultural resources are expected.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. GEOLOGY AND SOILS.				
Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☐	☑
• Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☑
• Strong seismic groundshaking?	☐	☐	☐	☑
• Seismic–related ground failure, including liquefaction?	☐	☐	☐	☑
• Landslides?	☐	☐	☐	☑
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☑
c) Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☑
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☑

e)	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses vary greatly and include commercial, industrial, residential, agricultural, and open space uses. The facilities affected by the proposed rule amendments are located in industrial areas, primarily in Contra Costa and Solano Counties.

The marine terminals are located in the natural region of California known as the Coast Ranges geomorphic province. The province is characterized by a series of northwest trending ridges and valleys controlled by tectonic folding and faulting, examples of which include the Suisun Bay, East Bay Hills, Briones Hills, Vaca Mountains, Napa Valley, and Diablo Ranges.

Regional basement rocks consist of the highly deformed Great Valley Sequence, which include massive beds of sandstone interfingered with siltstone and shale. Unconsolidated alluvial deposits, artificial fill, and estuarine deposits, (including Bay Mud) underlie the low-lying region along the margins of the Carquinez Straight and Suisun Bay. The estuarine sediments found along the shorelines of Solano County are soft, water-saturated mud, peat and loose sands. The organic, soft, clay-rich sediments along the San Francisco and San Pablo Bays are referred to locally as Bay Mud and can present a variety of engineering challenges due to inherent low strength, compressibility and saturated conditions. Landslides in the region occur in weak, easily weathered bedrock on relatively steep slopes.

The San Francisco Bay Area is a seismically active region, which is situated on a plate boundary marked by the San Andreas Fault System. Several northwest trending active and potentially active faults are included with this fault system. Under the Alquist-Priolo Earthquake Fault Zoning Act, Earthquake Fault Zones were established by the California Division of Mines and Geology along “active” faults, or faults along which surface rupture occurred in Holocene time (the last 11,000 years). In the Bay area, these faults include the San Andreas, Hayward, Rodgers Creek-Healdsburg, Concord-Green Valley, Greenville-Marsh Creek, Seal Cove/San Gregorio and West Napa faults. Other smaller faults in the region classified as potentially active include the Southampton and Franklin faults.

Ground movement intensity during an earthquake can vary depending on the overall magnitude, distance to the fault, focus of earthquake energy, and type of geological material. Areas that are underlain by bedrock tend to experience less ground shaking than those underlain by unconsolidated sediments such as artificial fill. Earthquake ground shaking may have secondary effects on certain foundation materials, including liquefaction, seismically induced settlement, and lateral spreading.

Regulatory Background

Construction is regulated by the local City or County building codes that provide requirements for construction, grading, excavations, use of fill, and foundation work including type of materials, design, procedures, etc., which are intended to limit the probability of occurrence and the severity of consequences from geological hazards. Necessary permits, plan checks, and inspections are generally required.

The City or County General Plan includes the Seismic Safety Element. The Element serves primarily to identify seismic hazards and their location in order that they may be taken into account in the planning of future development. The Uniform Building Code is the principle mechanism for protection against and relief from the danger of earthquakes and related events.

In addition, the Seismic Hazard Zone Mapping Act (Public Resources Code §§2690 – 2699.6) was passed by the California legislature in 1990 following the Loma Prieta earthquake. The Act required that the California Division of Mines and Geology (DMG) develop maps that identify the areas of the state that require site specific investigation for earthquake-triggered landslides and/or potential liquefaction prior to permitting most urban developments. The act directs cities, counties and state agencies to use the maps in their land use planning and permitting processes.

Local governments are responsible for implementing the requirements of the Seismic Hazards Mapping Act. The maps and guidelines are tools for local governments to use in establishing their land use management policies and in developing ordinances and review procedures that will reduce losses from ground failure during future earthquakes.

Discussion of Impacts

VI a – d. The proposed rule amendments will not directly expose people or structures to earthquake faults, seismic shaking, seismic-related ground failure including liquefaction, landslides, mudslides or substantial soil erosion. Some structural modifications at existing affected facilities may occur as a result of installing control equipment. Existing affected facilities or modifications to existing facilities would be required to comply with relevant Uniform Building Code requirements in effect at the time of initial construction or modification of a structure.

New structures must be designed to comply with the Uniform Building Code Zone 4 requirements since the Air District is located in a seismically active area. The local cities or counties are responsible for assuring that projects comply with the Uniform Building Code as part of the issuance of the building permits and can conduct inspections to ensure compliance. The Uniform Building Code is considered to be a standard safeguard against major structural failures and loss of life. The goal of the Code is to provide structures that will: (1) resist minor earthquakes without damage; (2) resist moderate earthquakes without structural damage but with some non-structural damage; and (3) resist major earthquakes without collapse but with some structural and non-structural damage. The Uniform Building Code bases seismic design on minimum lateral seismic forces ("ground shaking"). The Uniform Building Code requirements operate on the principle that providing appropriate foundations, among other aspects, helps to protect buildings from failure during earthquakes. The basic formulas used for the Uniform Building Code seismic design require determination of the seismic zone and site coefficient, which represents the foundation conditions at the site.

Any potentially affected facilities that are located in areas where there has been historic occurrence of liquefaction, e.g., coastal zones, or existing conditions indicate a potential for liquefaction, including expansive or unconsolidated granular soils and a high water table, may have the potential for liquefaction induced impacts at the project sites. The Uniform Building Code requirements consider liquefaction potential and establish more stringent requirements for building foundations in areas potentially subject to liquefaction. Therefore, compliance with the Uniform Building Code requirements is expected to minimize the potential impacts associated with liquefaction. The issuance of building permits from the local cities or counties will assure compliance with the Uniform Building Code requirements. Therefore, no significant impacts from liquefaction are expected.

The marine terminals are located in industrial areas, which are not typically located near known geological hazards (e.g., landslide, mudflow, seiche, tsunami or volcanic hazards), no significant adverse geological impacts are expected.

Although the proposed rule amendments may require modifications at existing marine terminals, such modifications are not expected to require substantial grading or construction activities. Control equipment would most likely be built on existing wharves or within existing industrial areas. The proposed rule amendments do not have the potential to substantially increase the area subject to compaction or overcovering since the subject areas would be limited in size and, typically, have already been graded or displaced in some way. Therefore, significant adverse soil erosion impacts are not anticipated from implementing the proposed rule amendments.

VI e. Septic tanks or other similar alternative wastewater disposal systems are typically associated with small residential projects in remote areas. The proposed rule amendment would not generate construction of residential projects in remote areas. The proposed rule amendments would affect marine terminals, which already are hooked up to appropriate sewerage facilities so no impacts on septic tanks or alternative wastewater disposal systems are expected.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☑
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☑

c)	Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☑
d)	Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☑
e)	Be located within an airport land use plan or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☑
f)	Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☑
g)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☑
h)	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☑

Setting

Petroleum refineries and marine terminals handle and process large quantities of flammable, hazardous, and acutely hazardous materials. Accidents involving these substances can result in worker or public exposure to fire, heat, blast from an explosion, or airborne exposure to hazardous substances.

The potential hazards associated with industrial activities are a function of the materials being processed, processing systems, and procedures used to operate and maintain the facility. The hazards that are likely to exist are identified by the physical and chemical properties of the materials being handled and their process conditions, including the following events.

- **Toxic gas clouds:** Toxic gas clouds are releases of volatile chemicals (e.g., anhydrous ammonia, chlorine, and hydrogen sulfide) that could form a cloud and migrate off-site, thus exposing individuals. "Worst-case" conditions tend to arise when very low wind speeds coincide with an accidental release,

which can allow the chemicals to accumulate rather than disperse. These materials are typically shipped via rail or truck and not by marine vessel.

- **Torch fires (gas and liquefied gas releases), flash fires (liquefied gas releases), pool fires, and vapor cloud explosions (gas and liquefied gas releases):** The rupture of a storage tank containing a flammable gaseous material (like propane), without immediate ignition, can result in a vapor cloud explosion. The "worst-case" upset would be a release that produces a large aerosol cloud with flammable properties. If the flammable cloud does not ignite after dispersion, the cloud would simply dissipate. If the flammable cloud were to ignite during the release, a flash fire or vapor cloud explosion could occur. If the flammable cloud were to ignite immediately upon release, a torch fire would ensue.

- **Thermal Radiation:** Thermal radiation is the heat generated by a fire and the potential impacts associated with exposure. Exposure to thermal radiation would result in burns, the severity of which would depend on the intensity of the fire, the duration of exposure, and the distance of an individual to the fire.

- **Explosion/Overpressure:** Process vessels containing flammable explosive vapors and potential ignition sources are present at refineries. Explosions may occur if the flammable/explosive vapors came into contact with an ignition source. An explosion could cause impacts to individuals and structures in the area due to overpressure.

For all refineries and their affiliated marine terminals, risks to the public are reduced if there is a buffer zone between processes and residences, or the prevailing wind blows away from residential areas. The risks posed by handling organic materials operations are unique and determined by a variety of factors. Refineries and marine terminals tend to be located in industrial areas which helps minimize public exposure in the event of a release.

Regulatory Background

Marine Terminals

There are many federal and state rules and regulations that refiners must comply with which serve to minimize the potential impacts associated with hazards at these facilities.

Under the Occupational Safety and Health Administration (OSHA) regulations [29 Code of Federal Regulations (CFR) Part 1910], facilities which use, store, manufacture, handle, process, or move highly hazardous materials must prepare a fire prevention plan. In addition, 29 CFR Part 1910.119, Process Safety Management (PSM) of Highly Hazardous Chemicals, and Title 8 of the California Code of Regulations, General Industry Safety Order §5189, specify required prevention program elements to protect workers at facilities that handle toxic, flammable, reactive, or explosive materials. Prevention program elements are aimed at preventing or minimizing the consequences of catastrophic releases of the chemicals and include process hazard analyses, formal training programs for employees and contractors, investigation of equipment mechanical integrity, and an emergency response plan.

Section 112 (r) of the Clean Air Act Amendments of 1990 [42 U.S.C. 7401 et. Seq.] and Article 2, Chapter 6.95 of the California Health and Safety Code require facilities that handle listed regulated substances to

develop Risk Management Programs (RMPs) to prevent accidental releases of these substances, U.S. EPA regulations are set forth in 40 CFR Part 68. In California, the California Accidental Release Prevention (CalARP) Program regulation (CCR Title 19, Division 2, Chapter 4.5) was issued by the Governor's Office of Emergency Services (OES). RMPs consist of three main elements: a hazard assessment that includes off-site consequences analyses and a five-year accident history, a prevention program, and an emergency response program. Refineries are also required to comply with the U.S. EPA's Emergency Planning and Community Right-to-Know Act (EPCRA).

The facilities that store large volumes of hazardous materials are required to have a Spill Prevention Control and Countermeasures (SPCC) Plan per the requirements of 40 Code of Federal Regulations, Section 112. The SPCC is designed to prevent spills from on-site facilities and includes requirements for secondary containment, provides emergency response procedures, establishes training requirements, and so forth.

The Hazardous Materials Transportation (HMT) Act is the federal legislation that regulates transportation of hazardous materials. The primary regulatory authorities are the U.S. Department of Transportation, the Federal Highway Administration, and the Federal Railroad Administration. The HMT Act requires that carriers report accidental releases of hazardous materials to the Department of Transportation at the earliest practical moment (49 CFR Subchapter C). The California Department of Transportation (Caltrans) sets standards for trucks in California. The regulations are enforced by the California Highway Patrol.

California Assembly Bill 2185 requires local agencies to regulate the storage and handling of hazardous materials and requires development of a plan to mitigate the release of hazardous materials. Businesses that handle any of the specified hazardous materials must submit to government agencies (i.e., fire departments), an inventory of the hazardous materials, an emergency response plan, and an employee training program. The business plans must provide a description of the types of hazardous materials/waste on-site and the location of these materials. The information in the business plan can then be used in the event of an emergency to determine the appropriate response action, the need for public notification, and the need for evacuation.

Contra Costa County has adopted an industrial safety ordinance that addresses the human factors that lead to accidents. The ordinance requires stationary sources to develop a written human factors program that includes the following:

- Consideration of human factors in the process hazards analysis process;
- Consideration of human systems as causal factors in the incident investigation process for major accidents or releases or for incidents that could have led to a major accident or release;
- Training of employees in the human factors program;
- Operating procedures;
- Management of changes in staffing, staffing levels, or organization in operations or emergency response;

- Participation of employees and their representatives in the development of the written human factors program;

- Development of a program that includes issues such as staffing, shiftwork, and overtime; and

- Incorporation of the human factors program description in the facility safety plan.

Marine terminal facilities operating vapor control systems for loading marine tank vessels are subject to U.S. Coast Guard regulations that govern the design, construction, and operation of these systems. These regulations are found primarily in 33 CFR Part 154. In general, the regulations are intended to ensure the safe operation of facilities that load marine tank vessels.

Marine Tank Vessels

Marine tank vessel operations are subject to wide array of U.S. laws and regulations as well as international laws, regulations, and treaties. This body of law and regulation comprehensively governs vessel design, construction, equipment, and operation with the object of ensuring vessel safety, protecting life at sea, and reducing environmental impacts. In the United States, these various requirements are primarily imposed through U.S. Coast Guard regulations, some of which incorporate international standards developed through treaty and some of which impose requirements under U.S. law.

Most of the international agreements related to tankers have been developed through the International Maritime Organization (IMO), established by a 1948 Geneva conference under the auspices of the United Nations. The most important IMO efforts affecting tanker operations have been updates to the International Convention for the Safety of Life at Sea (SOLAS) and the development of the International Convention for the Prevention of Pollution from Ships (MARPOL). IMO develops regulations to implement SOLAS and MARPOL, and these regulations are then implemented through adoption by member states. In the United States, the regulations are typically implemented through U.S. Coast Guard regulations.

U.S. Coast Guard regulations also implement U.S. laws enacted by Congress. One significant piece of legislation is the Oil Pollution Act of 1990 (OPA 90), which establishes a schedule to phase out single-hull tankers. This schedule differs in some respects from a schedule set by a MARPOL regulation that has not been adopted by the United States.

Specific Coast Guard regulations that affect marine tank vessel operations are found in 33 CFR Part 151 (design and operational requirements for tankers, including requirements for oil record books), 33 CFR Part 156 (lightering requirements), 33 CFR Part 157 (protection of marine environment, including requirements for segregated ballast tanks), 46 CFR Part 151 (design requirements for barges), and 46 CFR Part 153 (design requirements for tankers, including requirements for inert gas systems).

Discussion of Impacts

VII a. The proposed rule amendments do not affect in any way the transport, storage or use of hazardous material into, out of, or within any of the marine terminals. The proposed rule amendments would control emissions from certain loading events but are not expected to change how the material is transported, stored or used.

The proposed amendments would prohibit venting of a marine tank vessel with a current or prior cargo of a regulated organic liquid. Because one means of complying with such requirements is by sailing outside the District or District waters (which extend to California's 3-mile seaward limit), a venting prohibition could have the effect of increasing vessel trips through the Golden Gate and, depending upon how far seaward the prohibition applies, could affect the length of those trips. Because any tanker movement carries with it attendant risks of collision and potential water pollution, there might be some impact on hazards, depending on the nature of the venting prohibition.

In the case of the proposed amendments, no increased risks are expected because the amendments are not expected to affect tanker movements. Before 2004, evidence suggests that some venting associated with tank cleaning occurred within San Francisco Bay. In a March 8, 2005 advisory, however, the District notified marine terminal operators, marine agents, ship operators, and refiners that it interpreted the existing District regulations to prohibit these venting operations within the District. The U.S. Coast Guard then issued a Local Notice to Mariners dated April 5, 2005, which notified mariners of the venting prohibition. In response to these notifications, these activities do not occur within the District. As a result, the current environmental baseline is that no venting currently occurs within the District. Anecdotal information suggests that venting associated with tank cleaning occurs sporadically at a distance between 3 miles and 25 miles off the California coast west of the District. Because the proposed amendments only apply out to 3 miles west of the District, no change in vessel activity is expected. Therefore, no significant adverse impacts on transportation, storage or use of hazardous materials are expected.

VII b – c. The proposed rule amendments are expected to reduce emissions from existing marine terminal facilities thus reducing the emissions and releases of potentially toxic air contaminants, as well as potential hazards. In addition, the proposed prohibition on venting is not expected to alter marine tank vessel activity. Therefore, no significant adverse impacts on releases of hazardous materials into the environment are expected.

VII d. No impacts on hazardous material sites are anticipated from the proposed rule amendments that would apply to existing refinery and marine terminal operations. Some of the marine terminals may be located on the hazardous materials sites list pursuant to Government Code Section 65962.5. However, the proposed rule amendments would have no affect on hazardous materials nor would the amendments create a significant hazard to the public or environment. The marine terminals already exist. The proposed rule amendments neither require, nor are likely to result in, activities that would affect hazardous materials or existing site contamination. Therefore, no significant adverse impacts on hazards are expected.

VII e – f. No impacts on airports or airport land use plans are anticipated from the proposed rule amendments that would apply to existing marine terminal operations. The proposed rule amendments neither require nor are likely to result in activities which would affect the environment outside of the marine terminal boundaries. No major construction activities are expected from the proposed rule amendments and the construction activities are expected to be limited to the confines of the existing marine terminal. Further, the marine terminals are not located within two miles of airports. Therefore, no significant adverse impacts on hazards at airports are expected.

VII g. No impacts on emergency response plans are anticipated from the proposed rule amendments that would apply to existing marine terminal operations. Each marine terminal has prepared an emergency

response plan. The proposed rule amendments neither require, nor are likely to result in, activities that would impact the emergency response plan. No major construction activities are expected from the proposed rule amendments. Therefore, no significant adverse impacts on emergency response plans are expected.

VII h. No increase in hazards related to wildfires are anticipated from the proposed rule amendments that would apply to existing marine terminal operations. No major construction activities are expected from the proposed rule amendments and no activities would occur outside the confines of the existing marine terminals. Marine terminals are generally located at or near the water. Vegetation surrounding the operating portions of the terminals has been removed to reduce the potential fire hazards. Therefore, no significant adverse impacts on fire hazards are expected.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. HYDROLOGY AND WATER QUALITY.					
	Would the project:				
a)	Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☑
b)	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☑
c)	Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite?	☐	☐	☐	☑
d)	Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite?	☐	☐	☐	☑
e)	Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☑
f)	Otherwise substantially degrade water quality?	☐	☐	☐	☑

g)	Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☑
h)	Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	☐	☐	☐	☑

i)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☑
j)	Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses and affected environment vary substantially throughout the area and include commercial, industrial, residential, agricultural, and open space uses.

The marine terminals affected by the proposed rule amendments are located in industrial areas, primarily in Contra Costa and Solano Counties and are generally surrounded by other commercial and industrial facilities. The marine terminals are along the shores of the San Francisco Bay, San Pablo Bay, Carquinez Strait, and Suisun Bay.

Reservoirs and drainage streams are located throughout the area and discharge into the Bays. Marshlands incised with numerous winding tidal channels containing brackish water are located near the refineries.

The marine terminals are located within the San Francisco Bay Area Hydrologic Basin. The primary regional groundwater water-bearing formations include the recent and Pleistocene (up to two million years old) alluvial deposits and the Pleistocene Huichica formation. Salinity within the unconfined alluvium appears to increase with depth to at least 300 feet. Water of the Huichica formation tends to be soft and relatively high in bicarbonate, although usable for domestic and irrigation needs.

Regulatory Background

The Federal Clean Water Act of 1972 primarily establishes regulations for pollutant discharges into surface waters in order to protect and maintain the quality and integrity of the nation's waters. This Act requires industries that discharge wastewater to municipal sewer systems to meet pretreatment standards. The regulations authorize the U.S. EPA to set the pretreatment standards. The regulations also allow the local treatment plants to set more stringent wastewater discharge requirements, if necessary, to meet local conditions.

The 1987 amendments to the Clean Water Act enabled the U.S. EPA to regulate, under the National Pollutant Discharge Elimination System (NPDES) program, discharges from industries and large municipal sewer systems. The U.S. EPA set initial permit application requirements in 1990. The State of California, through the State Water Resources Control Board, has authority to issue NPDES permits, which meet U.S. EPA requirements, to specified industries.

The Porter-Cologne Water Quality Act is California's primary water quality control law. It implements the state's responsibilities under the Federal Clean Water Act but also establishes state wastewater discharge requirements. The RWQCB administers the state requirements as specified under the Porter-Cologne Water Quality Act, which include storm water discharge permits. The water quality in the Bay Area is under the jurisdiction of the San Francisco Bay Regional Water Quality Control Board.

In response to the Federal Act, the State Water Resources Control Board prepared two state-wide plans in 1991 and 1995 that address storm water runoff: the California Inland Surface Waters Plan and the California Enclosed Bays and Estuaries Plan. Enclosed bays are indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. San Francisco Bay, and its constituents parts, including Carquinez Strait and Suisun Bay, fall under this category.

The San Francisco Bay Basin Plan identifies the: (1) beneficial water uses that need to be protected; (2) the water quality objectives needed to protect the designated beneficial water uses; and (3) strategies and time schedules for achieving the water quality objectives. The beneficial uses of the Carquinez Strait that must be protected which include water contact and non-contact recreation, navigation, ocean commercial and sport fishing, wildlife habitat, estuarine habitat, fish spawning and migration, industrial process and service supply, and preservation of rare and endangered species. The Carquinez Strait and Suisun Bay are included on the 1998 California list as impaired water bodies due to the presence of chlordane, copper, DDT, diazinon, dieldrin, dioxin and furan compounds, mercury, nickel, PCBs, and selenium.

Discussion of Impacts

VIII a – j. No significant adverse impacts on hydrology/water quality resources are anticipated from the proposed rule amendments that would apply to existing marine terminal operations. The marine terminals affected by the proposed rule amendments are required to treat and monitor wastewater discharges from their facilities. The methods to control emissions could include vapor recovery devices, e.g., afterburners, incinerators, or flares. The emission control devices do not require water to operate or generate wastewater. The proposed amendments will not create additional water runoff, place any additional structures within 100-year flood zones or other areas subject to flooding, or contribute to inundation by seiche, tsunami or mudflow. No major construction activities are expected from the proposed rule amendments and no new structures, other than air pollution control devices at a few terminals, are required. Therefore, no significant adverse impacts on hydrology/water quality are expected.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. LAND USE AND PLANNING. Would the project:				
a) Physically divide an established community?	☐	☐	☐	☑
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the	☐	☐	☐	☑

	project (including, but not limited to a general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?				
c)	Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses vary greatly and include commercial, industrial, residential, agricultural, and open space uses.

The marine terminals affected by the proposed rule amendments are located in industrial areas, primarily in Contra Costa and Solano Counties and generally adjacent to industrial and commercial land uses.

Regulatory Background

Land uses are generally protected and regulated by the City and/or County General Plans through land use and zoning requirements.

Discussion of Impacts

IX a-c. The proposed rule amendments are not expected to result in land use impact. The marine terminals affected by the proposed rule amendments are located in industrial areas. The methods to control emissions could include vapor recovery devices, e.g., afterburners, incinerators, or flares. The emission control devices would add equipment to existing marine terminals. The emission control devices are compatible with the industrial nature of the land use at marine terminals and are not expected to require land use permits. No construction activities outside of the existing marine terminals are expected. Therefore, no significant adverse land use impacts are expected.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
X. MINERAL RESOURCES. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☑

b)	Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses and the affected environment vary greatly throughout the area. The marine terminals affected by the proposed rule amendments are located in industrial areas, primarily in Contra Costa and Solano Counties.

Regulatory Background

Mineral resources are generally protected and regulated by the City and/or County General Plans through land use and zoning requirements.

Discussion of Impacts

X a-b. The marine terminals already exist and are located in industrial areas. The proposed rule amendments may require construction of new air pollution control devices within the confines of existing marine terminals. No construction activities are expected outside of the existing marine terminals. The proposed rule amendments are not associated with any action that would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state, or of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. Therefore, no significant adverse impacts on mineral resources are expected.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XI.	**NOISE.** Would the project:				
a)	Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☐	☑
b)	Expose persons to or generate of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☑

c)	Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☑
d)	Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☑
e)	Be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☑
f)	Be located within the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses and the affected environment vary greatly throughout the area. The marine terminals affected by the proposed rule amendments are located in industrial areas, primarily in Contra Costa and Solano Counties and are typically surrounded by other commercial and industrial facilities.

Regulatory Background

Noise issues related to construction and operation activities are addressed in local General Plan policies and local noise ordinance standards. The General Plan and noise ordinances generally establish allowable noise limits within different land uses including residential areas, other sensitive use areas (e.g., schools, churches, hospitals, and libraries), commercial areas, and industrial areas.

Discussion of Impacts

XI a-f. The marine terminals already exist and are located within industrial areas. The proposed rule amendments may require existing commercial or industrial owners/operators of affected facilities to install air pollution control equipment. Potential modifications will occur at facilities typically located in appropriately zoned industrial or commercial areas. Ambient noise levels in commercial and industrial areas are typically driven primarily by freeway and/or highway traffic in the area and any heavy-duty equipment used for materials manufacturing or processing at nearby facilities. It is not expected that any modifications to install air pollution control equipment would substantially increase ambient operational noise levels in the

area, either permanently or intermittently, or expose people to excessive noise levels that would be noticeable above and beyond existing ambient levels. It is not expected that affected facilities would exceed noise standards established in local general plans, noise elements, or noise ordinances currently in effect.

It is also not anticipated that air pollution control devices measures will cause an increase in groundborne vibration levels because air pollution control equipment is not typically vibration intensive equipment. Consequently, the proposed rule amendments will not directly or indirectly cause substantial noise or excessive groundborne vibration impacts.

The marine terminals would still be expected to comply, and not interfere, with any applicable airport land use plans and disclose any excessive noise levels to affected residences and workers pursuant to existing rules, regulations and requirements, such as CEQA. It is assumed that operations in these areas are subject to, and in compliance with, existing community noise ordinances and applicable OSHA or Cal/OSHA workplace noise reduction requirements. In addition to noise generated by current operations, noise sources in each area may include nearby freeways, truck traffic to adjacent businesses, and operational noise from adjacent businesses.

The proposed rule amendments would not substantially increase ambient noise levels from stationary sources, either intermittently or permanently. Therefore, noise impacts associated with stationary source control measures are expected to be less than significant.

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. POPULATION AND HOUSING. Would the project:				
a) Induce substantial population growth in an area either directly (e.g., by proposing new homes and businesses) or indirectly (e.g. through extension of roads or other infrastructure)?	☐	☐	☐	☑
b) Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑
c) Displace a substantial number of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses and the affected environment vary greatly throughout the area. The marine terminals affected by the proposed rule amendments are located in industrial areas, primarily in Contra Costa and Solano Counties.

Regulatory Background

Population and housing growth and resources are generally protected and regulated by the City and/or County General Plans through land use and zoning requirements.

Discussion of Impacts

XII a. The marine terminals already exist and are located within industrial areas. The proposed rule amendments may require installation of new air pollution control equipment at a few marine terminals. It is expected that the existing labor pool within the Bay Area would accommodate the labor requirements for any construction activities. In addition, it is not expected that affected facilities will be required to hire additional personnel to operate and maintain new control equipment on site because air pollution control equipment is typically not labor intensive equipment. The proposed rule amendments are not expected to result in changes in population densities or induce significant growth in population.

XII b-c. The marine terminals already exist and are located within industrial areas. No housing would be impacted or removed by the proposed rule amendments and no displacement housing would be required. Therefore, no significant adverse impacts on population/housing are expected.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact

XIII. PUBLIC SERVICES. Would the project:

a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:

Fire protection?	☐	☐	☐	☑
Police protection?	☐	☐	☐	☑
Schools?	☐	☐	☐	☑
Parks?	☐	☐	☐	☑
Other public facilities?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses and the affected environment vary greatly throughout the area. The marine terminals affected by the proposed rule amendments are located in he industrial areas, primarily in Contra Costa and Solano Counties.

Given the large area covered by the BAAQMD, public services are provided by a wide variety of local agencies. Fire protection and police protection/law enforcement services within the BAAQMD are provided by various districts, organizations, and agencies. There are several school districts, private schools, and park departments within the BAAQMD. Public facilities within the BAAQMD are managed by different county, city, and special-use districts.

Regulatory Background

City and/or County General Plans usually contain goals and policies to assure adequate public services are maintained within the local jurisdiction.

Discussion of Impacts

XIII a. The marine terminals already exist and are located within industrial areas. There is no potential for significant adverse public service impacts as a result of adopting the proposed rule amendments. The proposed project would not result in the need for new or physically altered government facilities in order to maintain acceptable service ratios, response times or other performance objectives. No additional need for fire or police services would be expected.

Adopting the proposed rule amendments are not expected to require additional workers at the marine terminal, induce population growth or alter the distribution of existing population and would not increase or otherwise alter the demand for schools and parks in the Air District. No significant adverse impacts to schools or parks are foreseen as a result of adopting the proposed rule amendments. Therefore, no significant adverse impacts on public services are expected.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. RECREATION. Would the project:					
a)	Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☑
b)	Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that there are numerous areas for recreational activities. The marine terminals affected by the proposed rule amendments are located in industrial areas, primarily in Contra Costa and Solano Counties. Public recreational land uses are generally not located within the confines of industrial areas or near the marine terminals.

Regulatory Background

Recreational areas are generally protected and regulated by the City and/or County General Plans at the local level through land use and zoning requirements. Some parks and recreation areas are designated and protected by state and federal regulations.

Discussion of Impacts

XIV a-b. The marine terminals already exist and are located within industrial areas. There are no provisions in the proposed rule amendments that would affect land use plans, policies, ordinances, or regulations. Land use and other planning considerations are determined by local governments. No land use or planning requirements, including those related to recreational facilities, will be altered by the proposed rule amendments. The proposed rule amendments do not have the potential to directly or indirectly induce population growth or redistribution. As a result, the proposed control measures would not increase the use of, or demand for existing neighborhood and/or regional parks, or other recreational facilities, or require the construction or expansion of recreational facilities that might have an adverse physical effect on the

environment. Based upon the above considerations, significant adverse impacts to recreation are not expected due to implementation of the proposed rule amendments.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XV.	**TRANSPORTATION/TRAFFIC.** Would the project:				
a)	Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?	☐	☐	☐	☑
b)	Cause, either individually or cumulatively, exceedance of a level-of-service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☑
c)	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☑
d)	Substantially increase hazards because of a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	☐	☐	☐	☑
e)	Result in inadequate emergency access?	☐	☐	☐	☑
f)	Result in inadequate parking capacity?	☐	☐	☐	☑
g)	Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g. bus turnouts, bicycle racks)?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles). Transportation systems located within the Bay Area include railroads, airports, waterways, and highways. The transportation infrastructure for vehicles and trucks in the Bay Area ranges from single lane roadways to multilane interstate highways. The marine terminals affected by the

proposed rule amendments are located in industrial areas, primarily in Contra Costa and Solano Counties and are accessed via highways and local roadway systems.

The region is served by numerous interstate and U.S. freeways. On the west side of San Francisco Bay, Interstate 280 and U.S. 101 run north-south. U.S. 101 continues north of San Francisco into Marin County. Interstates 880 and 660 run north-south on the east side of the Bay. Interstate 80 starts in San Francisco, crosses the Bay Bridge, and runs northeast toward Sacramento. State Routes 29 and 84, both highways that allow at-grade crossings in certain parts of the region, become freeways that run east-west and cross the Bay. Interstate 580 starts in San Rafael, crosses the Richmond-San Rafael Bridge, joins with Interstate 80, runs through Oakland, and then runs eastward toward Livermore.

Regulatory Background

Transportation planning is usually conducted at the county level and most of the marine terminals in the Bay Area are located in Contra Costa and Solano Counties. The County of Contra Costa and the Contra Costa Transportation Authority share the duties of transportation planning and administration of improvement projects in the County of Contra Costa. The Contra Costa County Community Development Department conducts and oversees the transportation and planning for new development projects. The Contra Costa Transportation Agency implements the transportation programs and projects created by the County's Measure C, the Transportation Improvement and Growth Management Program, and also serves as the County's Congestion Management Agency.

The Solano Transportation Authority is the designated Congestion Management Agency for Solano County and develops the Congestion Management Plan (CMP) for Solano County. The CMP identifies a system of state highways and regionally significant principal arterials and specifies level of service standards for those roadways.

Discussion of Impacts

XV a-b. The marine terminals already exist and are located within industrial areas. The proposed rule amendments could require construction activities at several marine terminals for the installation of new air pollution control equipment. Construction materials will need to be transported to the affected terminals and construction workers (an estimated 10 to 20 workers) will temporarily be required during the construction period. The increased traffic associated with these construction activities is minimal and will cease following the construction period. Therefore, no significant adverse impact on traffic or congestion is expected due to implementation of the proposed rule amendments.

XV c. Neither air traffic nor air traffic patterns are expected to be directly or indirectly affected by adopting the proposed rule amendments. Controlling emissions at marine terminals, do not require constructing any structures that could impede air traffic patterns in any way.

XV d - e. It is not expected that adopting the proposed rule amendments will directly or indirectly increase roadway design hazards or incompatible risks. The proposed rule amendments are not expected to increase traffic hazards or create incompatible uses at or adjacent to the sites. Emergency access is provided at the marine terminal sites, will continue to be maintained at the sites, and will not be impacted by the proposed rule amendments.

XV f. The proposed rule amendments could require construction activities at several marine terminals for the installation of new air pollution control equipment. An estimated 10 to 20 construction workers will temporarily be required during the construction period. Sufficient parking is expected to be available at the marine terminals that require air pollution control equipment. The small increased in vehicle traffic associated with these construction activities is minimal and will cease following the construction period. No increase in permanent workers is expected. Therefore, the proposed rule amendments will not result in significant adverse impacts on parking.

XV g. The proposed rule amendments involve implementation of air quality control measures established in the ozone control plan. The proposed rule amendments are not expected to conflict with adopted policies, plans, or programs supporting alternative transportation modes (e.g., bus turnouts, bicycle racks).

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less-than-Significant Impact	No Impact
XVI. UTILITIES/SERVICE SYSTEMS. Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☑
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☑
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☑
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements needed?	☐	☐	☐	☑
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☑
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☑

g)	Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses and the affected environment vary greatly throughout the area. The marine terminals affected by the proposed rule amendments are located in industrial areas, primarily in Contra Costa and Solano Counties.

Given the large area covered by the BAAQMD, public utilities are provided by a wide variety of local agencies. The marine terminals have wastewater and storm water treatment facilities and discharge treated wastewater under the requirements of NPDES permits.

Water is supplied to the affected facilities by several water purveyors in the Bay Area. Solid waste is handled through a variety of municipalities, through recycling activities and at disposal sites.

There are no hazardous waste disposal sites within the jurisdiction of the BAAQMD. Hazardous waste generated at area facilities, which is not reused on-site, or recycled off-site, is disposed of at a licensed in-state hazardous waste disposal facility. Two such facilities are the Chemical Waste Management Inc. (CWMI) Kettleman Hills facility in King's County, and the Safety-Kleen facility in Buttonwillow (Kern County). Hazardous waste can also be transported to permitted facilities outside of California. The nearest out-of-state landfills are U.S. Ecology, Inc., located in Beatty, Nevada; USPCI, Inc., in Murray, Utah; and Envirosafe Services of Idaho, Inc., in Mountain Home, Idaho. Incineration is provided at the following out-of-state facilities: Aptus, located in Aragonite, Utah and Coffeyville, Kansas; Rollins Environmental Services, Inc., located in Deer Park, Texas and Baton Rouge, Louisiana; Chemical Waste Management, Inc., in Port Arthur, Texas; and Waste Research & Reclamation Co., Eau Claire, Wisconsin.

Regulatory Background

City and/or County General Plans usually contain goals and policies to assure adequate utilities and service systems are maintain within the local jurisdiction.

Discussion of Impacts

XVI a, b, d, and e. The proposed rule amendments will not generate or affect water use or wastewater discharge. Installation of air pollution control equipment that would be used to control emissions from loading organic materials onto marine vessels would generally involve incineration or carbon adsorption. Neither of these control technologies require the use of water or result in wastewater discharged. Therefore, no significant adverse impacts on water use or wastewater discharge are expected.

XVI c. Stormwater discharges associated from marine terminals are regulated according to CCR§402(p) under the NPDES. Under the NPDES permit, owners of the terminals must develop a Storm Water Pollution Prevention Plan (SWPPP), conduct monitoring and inspections, retain monitoring records, report incidences of noncompliance, and submit annual compliance by July 1 of each year. All marine terminals are required to have an SWPPP. Implementation of the proposed rule amendments is not expected to require construction outside of the existing marine terminal or result in additional storm water discharges. Therefore, the impacts of the proposed project of storm water are expected to be less than significant.

XVI f and g. The proposed control measures may generate additional solid or hazardous waste in the form of carbon used to control organic emissions, should facilities choose to comply using activated carbon filters. If carbon adsorption systems are used, the amount of hazardous waste generated on an annual basis is expected to be minimal. Most activated carbon used in carbon adsorption control devices is reclaimed and reactivated, resulting in negligible impacts on solid waste disposal facilities. Activated carbon can have a lifetime of five to 10 years; however, the operating characteristics of the control device may result in a shorter lifetime.

Spent carbon is usually recycled and reused rather than disposed in landfills. Most facilities contract out with vendors that take the spent carbon and deliver regenerated carbon. Another alternative to the land disposal of regenerated carbon is to burn the spent carbon in a thermal incinerator. With thermal incineration, the organic materials contained in the carbon are oxidized to carbon dioxide, water, and in most cases, harmless combustion by-products. Incineration destroys the toxic constituents and significantly reduces the volume of carbon to be disposed of, thus reducing solid waste impacts. The disadvantage of incineration is that without additional add-on control devices, there may be an increase in criteria pollutant emissions. Based upon the above considerations, significant adverse solid waste impacts resulting from the use of carbon adsorption are not expected due to implementation of the control measures within the proposed rule amendments.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. MANDATORY FINDINGS OF SIGNIFICANCE.				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	☑
b) Does the project have impacts that are individually limited, but cumulatively considerable?	☐	☐	☐	☑

	("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)				
c)	Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☑

Discussion of Impacts

XVII a. The proposed rule amendments do not have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory, as discussed in the previous sections of the CEQA checklist. The proposed rule amendments are expected to result in emission reductions from marine terminals, thus providing a beneficial air quality impact and improvement in air quality. No significant adverse impacts are expected.

XVII b. The proposed amendments to Regulation 8, Rule 44 include more stringent controls on emissions associated with the transfer of certain organic liquids between marine vessels and between marine vessels and existing landside terminals, thus providing a beneficial air quality impact and improvement in air quality. The proposed rule amendments are part of a long-term plan to bring the Bay Area into compliance with the federal and state ambient air quality standards for ozone. The proposed rule amendments do not have adverse environmental impacts that are limited individually, but cumulatively considerable when considered in conjunction with other regulatory control projects. The proposed rule amendments do not have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly. No significant adverse impacts are expected.

XVII c. The proposed rule amendments are expected to result in emission reductions from marine terminals and vessel to vessel loading, thus providing a beneficial air quality impact and improvement in air quality. The proposed rule amendments are part of a long-term plan to bring the Bay Area into compliance with the federal and state ambient air quality standards for ozone, thus reducing the potential health impacts due to ozone exposure. The proposed rule amendments do not have significant adverse effects (either directly or indirectly) to human beings.

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Chapter 4

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